INDIANA DEPARTMENT OF TRANSPORTATION
MATERIALS AND TESTS DIVISION

VERIFYING SIEVES
ITM No. 902-03T

1.0 SCOPE

1.1 This test method covers the procedure for verifying the physical condition of laboratory testing sieves ranging in size from 4 in. (100 mm) to No. 200 (75 µm).

1.2 The values stated in either acceptable English or SI metric units are to be regarded separately as standard, as appropriate for a specification with which this ITM is used. Within the text, SI metric units are shown in parenthesis. The values stated in each system may not be exact equivalents; therefore each system shall be used independently of the other, without combining values in any way.

1.3 This ITM may involve hazardous materials, operations, and equipment. This ITM does not purport to address all of the safety problems associated with the ITMs use. The ITM user's responsibility is to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

2.0 REFERENCES.

2.1 AASHTO Standards.

M 92 Wire-Cloth Sieves for Testing Purposes

3.0 SIGNIFICANCE AND USE. This ITM is used by laboratory personnel to verify the physical condition of testing sieves.

4.0 APPARATUS.

4.1 Calipers, readable to 0.01 mm.

4.2 Magnifier, readable to 0.1 mm.

5.0 PROCEDURE.

5.1 Sieves #4 (4.75 mm) AND COARSER.

5.1.1 Record the sieve identification, manufacturer, opening size, frame height and diameter.

5.1.2 Hold the sieve against a uniformly illuminated background. Check the general condition of the sieve for the following: cracks in frame, broken solder joints, wire tightness, and irregular openings.

5.1.3 Select two perpendicular fields of five openings each for verification. (Attachment B - Figure 1)

5.1.4 Using the calipers, measure and record the openings at their vertical (Y) and horizontal (X) midpoints (Attachment B - Figure 2). Keep the X and Y components separate and calculate the average of all 10 X measurements and all 10 Y measurements.

5.2 SIEVES FINER THAN #4 (4.75 mm).

5.2.1 Record the sieve identification, manufacturer, opening size, frame height and diameter.

5.2.2 Hold the sieve against a uniformly illuminated background. Check and record the general condition of the sieve for the following: cracks in frame, broken solder joints, weaving defects, creases, wrinkles, wire tightness, and irregular openings.

5.2.3 If all other visual inspection requirements are satisfactory but irregular openings are apparent, the sieve may be left in service by verifying compliance of the suspect openings to the requirements listed in Attachment A, Table 1 using the methods described in 5.1.3 and 5.1.4 except that the magnifier shall be used.

6.0 TOLERANCE. The maximum individual opening and average opening for each sieve shall not exceed the sieve tolerances of Attachment A, Table 1.

TABLE 1
SIEVE TOLERANCES

STANDARD DESIGNATION	ALTERNATIVE DESIGNATION	PERMISSIBLE AVERAGE OPENING	MAXIMUM INDIVIDUAL OPENING
100 mm	4 in.	±3.00 mm	104.8 mm
90 mm	3 1/2 in.	±2.70 mm	94.4 mm
75 mm	3 in.	±2.20 mm	78.7 mm
63 mm	2 1/2 in.	±1.90 mm	66.2 mm
50 mm	2 in.	±1.50 mm	52.6 mm
37.5 mm	1 1/2 in.	±1.10 mm	39.5 mm
25 mm	1 in.	±0.800 mm	26.4 mm
19 mm	3/4 in.	±0.600 mm	20.1 mm
12.5 mm	1/2 in.	±0.390 mm	13.31 mm
9.5 mm	3/8 in.	±0.300 mm	10.16 mm
4.75 mm	No. 4	±0.150 mm	5.14 mm
3.35 mm	No. 6	±0.110 mm	3.66 mm
2.36 mm	No. 8	±0.080 mm	2.600 mm
2.00 mm	No. 10	±.070 mm	2.215 mm
1.18 mm	No. 16	±0.045 mm	1.330 mm
600 µm	No. 30	±25 µm	695 µm
425 µm	No. 40	±19 µm	502 µm
300 µm	No. 50	±14 µm	363 µm
180 µm	No. 80	±9 µm	227 µm
150 µm	No. 100	±8 µm	192 µm
75 µm	No. 200	±5 µm	103 µm

Tolerances for sieves not in Table 1 can be found in AASHTO M 92

SIEVE VERIFICATION
ITM 902

Sieve Identification_____

Manufacturer_____

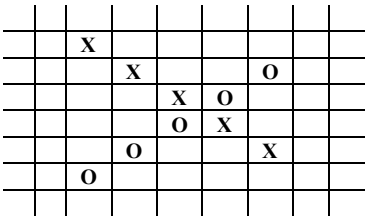
Sieve Opening Size_____

Frame Height/Diameter _____/_____

General Physical Condition				
For Sieves finer than #4 (4.75 mm)			**For sieves #4 (4.75 mm) and coarser**	
	√			√
Is the frame cracked?			Is the frame Cracked?	
Are the welds broken?			Are the welds broken?	
Any weaving defects, creases or wrinkles?			Are the wires tight?	
Is the screen tight?			Are irregular openings apparent?	
Are irregular openings apparent?				

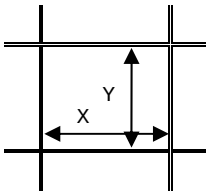
Opening Verification for sieves #4 (4.75 mm) and coarser or Suspect Fine Openings

Figure 1



Field 1 O Field 2 X

Figure 2



	Field 1		Field 2	
	X	**Y**	**X**	**Y**
1				
2				
3				
4				
5				

Average of all ten X	**Average of all ten Y**

- **No X or Y component should exceed the maximum individual opening given in Table 1.**
- **The X or Y average should not exceed the permissible average opening given in Table 1.**

Remarks:_____

Calibration Equipment Used:_____

Verified By: _____

Date: _____ Next Due Date: _____